

Amendment to the specification

Page 1 of the specification, please add the following paragraph before paragraph [0001]:

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Pursuant to 35 U.S.C. § 119(a), this application claims the benefit of earlier filing date and right of priority of International Application No. PCT/KR2004/002314, filed on September 10, 2004, which claims the priority of Korean Patent Application No. 10-2003-0065949, filed September 23, 2003, the contents of which are hereby incorporated by reference herein in their entirety.

Please replace paragraph [0028] with the following amended paragraph:

[0028] A UPnP-based media contents playback (reproducing) system which can rapidly continuously play media contents (for example, audio and video contents) played by a first control point 110 by a second control point 112 by transmitting state information of the media contents played by the first control point to the second control point, and a method thereof in accordance with the preferred embodiments of the present invention will now be described in detail with reference to FIGS. 1 to 11. That is, when the user watching the media contents in one space intends to move to another space and watch the media contents, the first control point 110 stores the state information of the media contents (state information of a media renderer 148) in a media server 120, and the second control point 112 located in another space reads the state information stored in the media server and plays the corresponding media contents, so that the user can rapidly continuously watch the media contents in another space without taking an additional time for recomposing UPnP devices in another space.

Please replace paragraph [0030] with the following amended paragraph:

[0030] A first control point CP1 110 selects predetermined media contents among the media contents provided by a media server MS 120, and confirms whether a first media renderer MR1 148 can play the selected media contents. Here, the first control point CP1 110 matches protocols and data formats between the media server MS 120 and the first media renderer MR1 148, sets an AudioNideo Transport Uniformed Resource Identifier (AV Transport URI) through the media server MS or the first media renderer MR1, and invokes a play action. That is, when the media contents stream is transmitted from the media server MS 120 to the first media renderer MR1 148, the first control point CP1 110 plays the corresponding media contents by the first media renderer MR1, so that the user can watch the media contents.

Please replace paragraph [0031] with the following amended paragraph:

[0031] On the other hand, when the user pauses playback of the media contents to move to another space (for example, from first to second floor), the first control point CP1 110 pauses the media server MS 120 and the first media renderer MR1 148, and stores state information of the first media renderer MR1 (rendering state information) in the media server MS. That is, the first control point CP1 110 receives state information of an AV Transport service and a Rendering Control service of the first media renderer MR1 148 from the first media renderer MR1, and stores the received state information in the media server MS 120. Here, the AV Transport service and the Rendering Control service are defined by the UPnP.

Please replace paragraph [0032] with the following amended paragraph:

[0032] Thereafter, when the user moves to another space (for example, from first to second floor), a second control point CP2 112 located in another space receives the state information stored in the media server MS 120 through the UPnP-based home network upon the user's request. That is, the media server MS 120 transmits the stored state information to the second control point CP2 112 according to the control signal from the first control point CP1 110.

Please replace paragraph [0033] with the following amended paragraph:

[0033] The second control point CP2 112 transmits the state information to a second media renderer MR2 150. That is, the second control point CP2 112 transmits the state information of the AV Transport service and the Rendering Control service of the first media renderer MR1 148 to the second media renderer MR2 150, so that the user can rapidly continuously watch the media contents which he/she previously watched in another space (for example, second floor).

Please replace paragraph [0034] with the following amended paragraph:

[0034] On the other hand, in order for the first control point CP1 110 to transmit the state information to the second control point CP2 112 through the media server MS, the first control point CP1 and the second control point CP2 must be able to discover and control each other. However, it is difficult for the first control point CP1 110 and the second control point CP2 112 to discover and control each other. Accordingly, in order to transmit the state information received by the first control point CP1 110 to the second control point CP2 112, the state information is preferably transmitted through the service of the UPnP device. For example, preferably, the first control point CP1 110 transmits the state information stored in the media server MS to the second control point CP2 112 through a Connection Manager service of the media server MS 120.

Please replace paragraph [0035] with the following amended paragraph:

[0035] Preferably, an optional action for transmitting the state information stored in the media server MS 120 to the second control point CP2 112 through the Connection Manager service of the media server MS is added and temporarily stored in the media server MS. For example, the name of the optional action can be CM::StatePut(), and input arguments can be objectId, MediaServer State information and MediaRenderer State information. The objectId is necessary as an identifier for the stored state

information.

Please replace paragraph [0036] with the following amended paragraph:

[0036] Therefore, when the user intends to search the media server MS by using the second control point CP2 112 located in another space and watch the media contents which he/she previously watched, the user can watch the media contents from the paused part or the beginning on the basis of the state information corresponding to the objectID, namely, the state information of the media contents. For example, when the user intends to watch the media contents on the basis of the stored state information, the second control point CP2 112 receives the state information stored ~~stbred~~ in the media server MS through CM:StateGet action (refer to FIG. 4). Here, the received state information includes state information relating to the AV Transport Control service of the first media renderer MR1 148 and state information relating to the Rendering control service thereof.

Please replace paragraph [0037] with the following amended paragraph:

[0037] In accordance with the present invention, the media contents playback method of the UPnP-based media contents playback system can be varied according to a pull model and a push model. The process of the user watching the media contents before moving from one to another space is identical to that in the general UPnP standard, and thus explanations thereof are omitted. The operation for transmitting the state information stored in the media server MS to the second control point CP2 112 will now be explained.

Please replace paragraph [0040] with the following amended paragraph:

[0040] When the model of the UPnP-based media contents playback system is the pull model and the second control point CP2 112 transmits the state information stored in the media server MS 220 to the second media renderer MR2 250, the second media

renderer MR2 can change a media offset of the buffered media contents on the basis of time information of the media server MS, or play the media contents again from the last pause time through seek() action.

Please replace paragraph [0041] with the following amended paragraph:

[0041] On the other hand, when the model of the UPnP-based media contents playback system is the push model, the media server 220 executes the AV Transport service ~~Transport service~~, and the media renderer MR148 executes the Rendering Control service. Therefore, the UPnP-based media contents playback system obtains the state information and plays the corresponding media contents on the basis of the state information as shown in FIG. 3.

Please replace paragraph [0043] with the following amended paragraph:

[0043] When the model of the UPnP-based media contents playback system is the push model and the second control point CP2 112 transmits the state information stored in the media server MS 320 to the second media renderer MR2 350, the second media renderer MR2 can change a media offset on the basis of time information of the media server MS, or play the media contents from the last pause time through seek() action.

Please replace paragraph [0046] with the following amended paragraph:

[0046] In order to ~~transmit~~ transmit the state information received by the first control point ~~[[CP]]~~ CP1 110 to the second control point CP2 112, CM:StateGet() action and CM::StatePut() action can be added as shown in FIGS. 4 to 6.

Please replace paragraph [0047] with the following amended paragraph:

[0047] So as to transmit the media contents stream from the media server MS to the second media renderer MR2 150 by invoking each action once in every service,

AVT::StateGet(), AVT::StateSet at RCS::StateGet() and AVT::StateSet() actions can be added as shown in FIGS. 7 to 11.

Please replace paragraph [0048] with the following amended paragraph:

[0048] On the other hand, in a state where the first control point CP1 110 does not pause the operation of the first media renderer MR1 148, the users can watch the media contents by the second media renderer MR2 150, which is called a coping renderer. For example, when the two users watch the same media contents (for example, movie program) together, if one of the users intends to move to another space and watch the same media contents in another space, the first control point CP1 invokes StateSet action from the media server MS 120, and the second media renderer MR2 150 located in another space receives the state information through StateGet action, so that the user can continuously watch the media contents by the second media renderer MR2 on the basis of the state information. For reference, the control point located in another space (for example, second control point) can be informed of all state information of the first media renderer MR1 148 by joining the event service, and thus may not use CM:StateSet() and CM::StateGet() services.

Please replace paragraph [0049] with the following amended paragraph:

[0049] In addition, the second media renderer MR2 150 located in another space is a combo media renderer (integration module of control point and media renderer), which can receive the state information by joining the event services of the media server MS 120 and the first media renderer MR1 148, instead of invoking CM:StateGet() action. Here, when a type of the media contents is a file, the user can easily watch the file-type media contents on the basis of the location information of the media contents which he/she previously watched.

Please replace paragraph [0050] with the following amended paragraph:

[0050] In accordance with the present invention, when the media server MS 120 transmits the media contents to the second media renderer MR2 150 located in another space through a multicast, the second media renderer MR2 can play the media contents transmitted through the multicast.

Amendment to the drawings

Please replace FIGS. 1, 2, and 3 with the attached amended FIGS. 1, 2, and 3: